

In setting forth the various types of cars as 70 and 80 metric ton four-axle cars I refer to the weight of the car plus the load carried. For straight capacity I have seen cars carry a load of 70 metric tons, the largest I have ever observed. Heavy cars were not used on all roads because of the limitations of roadbeds, bridges, rails, etc. They were used mainly on first class main lines.

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workers classified roads as follows:

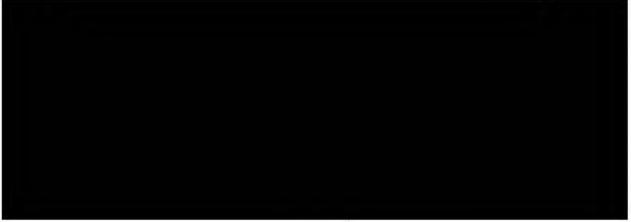
- a) Those capable of carrying any type of rolling stock and loads. These were main lines with a high priority on heavy rails of the A-3 type, oak ties, special heavy fish plates and excellent maintenance. Load limits and speed were not observed too carefully.
- b) Roads of respectively less importance and with a lesser degree of maintenance and equipment, carried the same loads but at a slower speed and with more care.
- c) Roads where a great deal of care and attention to speed and load had to be observed because of poor roadbed, curves, bridge limits, etc.
- 2. When I referred to the composition of a train as having between 10 and 15 tank cars and carrying between 1500 and two thousand metric tons I did not mean to imply that the train was all tank cars. A train is made up of various type loads and cars, among which I have seen from 10 to 50 tank cars (of 25 metric tons capacity) in a train plus other carloads. The train loads were limited to about 2400 metric tons. You will note that I stated that there were two types of tank cars, one with two axles with a capacity of about 25 metric tons and a four-axle type with a capacity of (limit) 60 metric tons. I recall now that I have also seen an in-between type, a larger (than 25 metric tons) reinforced two-axle type (and some with three axles) with a capacity of about 40 metric tons.

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- 3. I would like to add that the most important factor in determining the length of a train was the type of coupling used. The automatic coupling was the most reliable and a train of cars so equipped could safely carry 2400 metric tons. However, during my time in the Soviet only 25 to 30% of cars were so equipped. The balance of cars were equipped with the old style hooks and when they were used in a train the load and number of cars was limited by the roadbed (whether level and solid or hilly) and curves. Then, too, many of the small stations could not handle long trains.
- 4. I would also like to point out that correct. Legs (one way) travelled by a locomotive and engineer and crew varied from one hundred to 150 km. Now the length of the leg more or less determined the work day of an engineer. If one leg was more than 130 km it was considered the norm equal to a round trip run and the engineer had to lay over and rest before starting back. This would take up two days work time. However, if the length of the leg was 130 (approximate) km or less, the engineer could take his locomotive back the same day, making up about a 15-hour day. Another determining factor is the type of load pulled. If the load had a priority and was on a through schedule with no stops, the run out and back took a correspondingly shorter time whereas a secondary load, with many stops and sidetracks for priority trains, took longer.





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